

New Subject Index Plan for the Journal

THIS year, for the first time, articles appearing in the JOURNAL have been indexed by title in accordance with an extensive topical scheme, rather than merely by page number under narrow subject categories. The plan adopted here has previously been employed in the two cumulative JOURNAL index volumes covering the years 1940-55 and 1956-65, respectively. Users of those volumes have found the indexing scheme efficient and practical. It should prove equally helpful to users of the annual index. In addition, the adoption of annual title indexing should make it possible to compile cumulative indexes more easily and at shorter intervals than heretofore.

Topical Arrangement

The subject matter covered in JOURNAL articles in recent years has been divided into eight major categories, with each, in turn, broken down into subordinate topics and subtopics, as outlined on pages 1426-27. (Of course, not every topic listed will be covered in any single year.) For reference purposes, each topic has been given a four-digit numerical designation, the major categories being numbered 0000, 1000, etc., up to 7000. For example, the category "Water Quality and Treatment" is numbered 4000. Under that heading will be found a chronological list of articles dealing with that subject in general terms. Articles chiefly concerned with a specific subdivision—such as "4100. Quality Standards"—are listed chronologically under the latter heading, while articles covering a particular aspect of quality standards—bacteriologic analysis, for example—appear under that subheading (4120).

An article devoted equally to two or three topics will usually be found listed under each appropriate heading, but articles touching briefly on numerous subjects will more likely be listed only under the general headings. Thus, a paper on hydrants and meters would be listed under both "Valves and Hydrants" (5700) and "Meters and Services" (5900), but one dealing with services, meters, mains, pumps, and storage would probably appear only once, under "Distribution System Operation" (5000). Cross references are given under topic headings to direct the user to related sections. As an added convenience, a few "catch-all" sections have been included, such as 2100 on regulation and legislation, which overlap many topics and duplicate a large number of listings. These sections may prove useful in research on broad subjects that involve many different phases of water utility management and operation.

Alphabetic List of Subjects

As an adjunct to the topical outline previously mentioned, an alphabetic list of subjects has been provided on pp. 1428-29. To keep the size of this list within practicable limits, the keywords have been restricted to less specific terms (for instance, "Bacteriology" is present, but not "Coliform"), and some obvious synonyms have been omitted ("Pipe" is included, but "Mains" is not).

The entries show topic section numbers rather than page numbers. The Subject Index (pp. 1431-44) is arranged numerically by topic section.

Geographic Index

The Geographic Index (p. 1430) lists the topic sections under which will be found articles dealing with particular cities, states, provinces, river basins, and foreign countries. The user can locate such articles by turning to the topic sections indicated and looking for titles containing the place name in question. Where the original title did not contain the name, it has been included in brackets [].

Topical Outline

- | | |
|---|---|
| 0000. American Water Works Association | 1500. Water Collection |
| 0100. Policy and Activities | 1510. Dams, Reservoirs, and Intakes |
| 0110. Constitution and Bylaws | 1511. Evaporation Control |
| 0120. Policy Statements | 1520. Wells and Infiltration Galleries |
| 0130. President's Address | 1530. Transmission Lines and Aqueducts |
| 0200. Committee Reports and Activities | 1600. Watershed Management, Protection, and Use |
| 0300. Publications | 1610. Public Access to Reservoirs and Watershed Lands |
| 0400. Staff Reports | 1700. Estimation and Control of Water Use |
| 0500. Section Activities | 1710. Water-Use Studies and Forecasts |
| 0510. Section Meeting Programs and Records | 1720. Adequacy of Facilities and Service |
| 1000. Water Resources | 1730. Demand Charges and Restrictions |
| 1100. Hydrology and Geology | 2000. Management and Administration |
| 1110. Hydrology (Precipitation, Run-off, Reservoir Yield) | 2100. Regulation, Legislation, and Government Activities |
| 1120. Geology (Ground Water, Salt Water Intrusion) | 2110. State and Local Agencies |
| 1200. Available Supplies | 2120. Interstate and National Agencies |
| 1210. National Water Policy | 2130. Liability and Litigation |
| 1220. Regional Resources—Development and Extent | 2200. Organization and Administrative Policy (Authorities, Districts, Joint Operations) |
| 1230. Water Rights | 2300. Financing |
| 1300. Additional Sources of Water Supply | 2310. Bonds |
| 1310. Desalinization | 2320. Main Extension Financing |
| 1320. Reuse | |
| 1330. Artificial Recharge | |
| 1400. Quality Surveys | |

- 2400. Accounting and Depreciation Procedures
- 2500. Sales, Revenues, and Conditions of Service
 - 2510. Metering
 - 2520. Rate Structures
- 2600. Commercial Practices
 - 2610. Meter Reading
 - 2620. Billing and Collection
 - 2630. Purchasing, Inspection, and Inventory
- 2700. Employee Relations and Records
 - 2710. Wages, Salaries, and Benefits
 - 2720. Recruitment, Training, and Certification
 - 2730. Safety
- 2800. Public Relations and Consumer Complaints
- 3000. Water Works Operation and Maintenance
 - 3100. General and Descriptive
 - 3200. Overall Plans and Planning
 - 3300. Operating Records
 - 3400. Construction and Engineering
 - 3410. Costs
 - 3500. Plant Maintenance Programs
 - 3510. Corrosion Problems
 - 3520. Electrical Protection
 - 3600. Emergency Operation, Wartime Problems, and Civil Defense
 - 3700. Automatic Operation and Control
- 4000. Water Quality and Treatment
 - 4100. Quality Standards
 - 4110. Health and Hygiene
 - 4111. Organisms in Water Supplies
 - 4120. Bacteriologic and Biologic Analyses
 - 4130. Chemical and Physical Analyses
 - 4140. Laboratory and Field Equipment and Technique
 - 4200. Treatment and Treatment Plants
 - 4201. Sludge Disposal
 - 4210. Taste and Odor Control
 - 4211. Algae and Weed Control
 - 4220. Pretreatment (Coagulation, Flocculation, Sedimentation, Clarification)
 - 4230. Filtration
 - 4231. Diatomite Filtration
 - 4300. Disinfection
 - 4341. Chlorination
 - 4250. Softening and Iron-Manganese-Color Removal
 - 4260. Fluoridation and Defluoridation
 - 4270. Antiscale and Anticorrosion Treatment
 - 4280. Chemical Handling and Feeding
 - 4290. Industrial and Boiler Water
 - 4300. Contaminants in Water Supplies
 - 4310. Organic Contaminants
 - 4320. Synthetic Detergents
 - 4330. Herbicides and Pesticides
 - 4340. Radioactivity
 - 4341. Detection and Measurement
 - 4342. Prevention and Removal
 - 4400. Quality Maintenance and Pollution Control
 - 4410. Sewage and Industrial Wastes
 - 4420. Quality Maintenance in Wells
 - 4430. Quality Maintenance in Distribution Systems
 - 4431. Plumbing and Cross Connections
- 5000. Distribution System Operation
 - 5010. Cold-Weather Operation
 - 5100. Design
 - 5110. Hydraulics
 - 5200. Records and Studies
 - 5300. Distribution System Storage Facilities
 - 5400. Pumps, Motors, and Engines
 - 5500. Pipe, Tubing, and Conduits
 - 5510. Cast-Iron Pipe
 - 5520. Steel Pipe
 - 5530. Concrete Pipe
 - 5540. Plastic Pipe
 - 5550. Coatings and Linings
 - 5600. Pipe Installation and Maintenance
 - 5700. Valves and Hydrants
 - 5800. Meters and Services
 - 5810. Meter Installation, Testing, and Repair
 - 5820. Service Lines and Fittings
 - 5900. Fire Protection
- 6000. Water Supply Outside the US and Canada
- 7000. Research and Statistics
 - 7100. Research Needs and Programs
 - 7200. Surveys and Statistical Analyses

Alphabetic List of Subjects

Numbers refer to topic sections, not pages (see explanation, p. 1425).

- Accounting, 2400
Administration, 2000
Algae control, 4211
American Water Works Association, 0000
Analysis; bacteriologic and biologic, 4120
 chemical and physical, 4130
Aquatic organisms, 4111, 4120, 4211
Authorities; water and sanitary, 2200
Automatic operation and control, 3700
- Bacteriology, 4120
Basins; river, 1220
 treatment, 4220
Beautification, 2800
Billing, 2620
Biologic analysis, 4120
Bookkeeping, 2400, 2620
- Cast-iron pipe, 5510
Cathodic protection, 3520
Chemical analysis, 4130
Chemicals; AWWA specifications for, 0300
 handling and feeding of, 4280
Chlorination, 4241
Clarification, 4220
Cleaning; pipeline, 5600
Cloud seeding, 1110
Coagulation, 4220
Coatings; tank, 5300
Cold-weather operation, 5010
Collection; bill, 2620
 water, 1500
Color removal, 4250
Commercial practices, 2600
Committee reports, 0200
Complaints; consumer, 2800
Conduits, 1530, 5500
Control; automatic and remote, 3700
Corrosion, 3510, 4270
Costs; construction, 3410
Cross connections, 4431
- Damages; liability for, 2130
Dams, 1510
Demand; water, 1710
Depreciation, 2400
Desalinization, 1310
Design; distribution system, 5100
 treatment plant, 4200
Disease; waterborne, 4110
- Disinfection; main, 5600
 water supply, 4240
Distribution systems; operation of, 5000
 water quality maintenance in, 4430
Districts; water and sanitary, 2200
Ductile-iron pipe, 5510
- Electrical protection, 3520
Electrophoresis, 4220
Employees, 2710
- Feeding; chemical, 4280
Filtration, 4230
Financing, 2300
Flocculation, 4220
Fluoridation, 4260
Forecasting; population and water use, 1710
 weather, 1110
Foreign water supply, 6000
Frost problems, 5010
- Geology, 1120
Government policies and activities, 1210, 2100
Ground water, 1120
Growths; aquatic, 4111, 4211
- Hazards; public health, 4110
 water plant, 2730
Health and hygiene, 4110
Hot-water heaters, 4270, 4431
Hydraulics, 5110
Hydrology, 1110
- Industrial water; demand for, 1710
Insurance, 2200
Ion-exchange treatment, 4250
Iron removal, 4250
- Jointing materials, 5600
- Labor relations, 2710
Laboratory technique, 4140
Legislation, 2100
Liability, 2130
Litigation, 2130
- Maintenance; records, 3300
Management, 2000
Manganese removal, 4250
Meter reading, 2610

- Metering, 2510
Mixing, 4220
- Odor control, 4210
Operation; administrative, 2000
 distribution system, 5000
 treatment plant, 4200
 water works, 3000
Organization; water utility, 2200
- Pipe, 5500
 installation and maintenance of, 5600
 service, 5800
Pipeline growths, 4111
Planning, 3200
Plastic pipe, 5540
Plumbing, 4431
Pollution control, 4300, 4400
Precipitation, 1110
Pretreatment, 4220
Public health, 4110
Pumps, 5400
Purchasing, 2630
- Quality; maintenance of, 4400
 standards of, 4100
 surveys of, 1400
- Radioactivity, 4342
Rainfall, 1100
Rate structures, 2520
Recharge, 1330
Reclaimed sewage, 1320
Records; commercial, 2620
 maintenance, 3300
Regulation; government, 2100
Reservoirs; distribution, 5300
 impounding, 1510
Resources, 1000
 national policy on, 1210
 regional, 1220
Retirement; water works facilities, 2400
Reuse, 1320
Revenues, 2500
River basins, 1220
Rumoff, 1110
- Safety, 2730
Salaries, 2710
Salt water; distillation, 1310
 intrusion, 1120
Scale, 4270
Sections; AWWA; activities of, 0510
Sedimentation, 4220
Service; conditions of, 2500
Services, 5800
Sewage; pollution by, 4410
 reclamation of, 1320
Short schools, 2720
Siltation, 1110, 1510
Sludge disposal, 4201
Softening, 4250
Standards; AWWA, 0300
 water quality, 4100
State government regulation and legislation, 2100
Statistics, 7200
Storage; distribution system, 5300
 impounding-reservoir, 1510
Stream flow, 1110
Stream pollution, 4300, 4400
Subsidence, 1120
Suburban service, 2200
Surge, 5110
- Tanks, 5300
Taste and odor control, 4210
Taxation, 2000
Telemetering, 3700
Training, 2720
Treatment, 4200
Treatment plant wastes, 4201
- Use; water, 1710
- Valves, 5700
- Wages, 2710
Water hammer, 5110
Watershed management, 1600
Weather modification, 1110
Wells, 1520

Geographic Index

Numbers refer to topic sections, not pages (see explanation preceding). Italic numbers in parentheses following a topic section number indicate that the section contains more than one article dealing with that particular place. Topic sections containing articles dealing with a state in general or covering many cities in it are shown directly under the state. Because a single article is often listed under more than one section, several section numbers following a place name may refer to the same article.

UNITED STATES

Alaska

5010, 5300

Arizona

Phoenix 2720

California

1110, 1330, 2110, 2200, 3200, 3410, 5010

Belmont County 2800, 5300

Delta-Mendota Canal 1120

East Bay (*see* Oakland)

Fresno 1120

Fresno County 1120

Los Angeles 3520, 4431

Oakland 2800, 5300

Orange County 1320, 1330

San Diego 2500, 2800

San Francisco 2200, 2520

Santee 1320, 4111, 4410

South Tahoe 1320

Ventura 2500, 2800

Colorado

Denver 2130, 2200 (2), 2520, 2730, 3200, 5300

Great Lakes

1220, 1400, 4400

Illinois

Peoria 1330

Iowa

Des Moines 4210

Maryland

Washington Suburban San. Dist. [Sub.
D.C.] 5110, 5300

Michigan

2300

Detroit 2200, 2520, 2720

Waterford Twp. 1520, 3700

Missouri

4310

St. Louis County 4230, 4250, 5510, 5600

New England

1220

New Jersey

2500, 2800

Matawan Twp. 1700, 3100

New York

1220, 2110

Monroe County 2610, 2620

New York City 1220 (2), 3100

Ohio

Fremont 4250

Pennsylvania

Philadelphia (suburban) 2720

South Dakota

1510

Texas

1510, 4000, 4111

Dallas 2720

Fort Worth 5600

Greenville 4320

San Antonio 3200

Washington

2130

Seattle 4431

Wisconsin

Madison 2000, 2200

FOREIGN

Australia

Sydney 4200, 6000

Great Britain

4201, 6000 (2)

Great Yarmouth 4111, 4240, 6000

Norway

1510, 4000, 4250, 6000

Philippines

Manila 6000

Venezuela

2520 (2), 6000 (2)

Subject Index

See preceding pages for explanation of topic numbering system. A complete topical outline appears on pp. 1426-27 and on alphabetical list of subjects on pages 1428-29.

0000. AMERICAN WATER WORKS ASSOCIATION

	PAGE	MO.
Tribute to Charles P. Hoover.....	F. H. Waring	1077 Sep
An Eye to the Future.....	Abel Wolman	1205 Nov
Milestones Along the Way of AWWA.....	Ellsworth L. Filby	1210 Nov

0120. Policy Statements

Quality Goals for Potable Water.....		1317 Dec
--------------------------------------	--	----------

0120. President's Address

Water Industry and Local Government.....	Henry J. Graeser	1 Jan
--	------------------	-------

0200. Committee Reports and Activities

Tentative Method for Metals in Water.....		739 Jun
Survey of Compensation of Water Utility Personnel, United States and Canada, 1968.....		985 Sep
Status of Fluoridation in the United States and Canada, 1966.....		1199 Oct
Quality Goals for Potable Water.....		1317 Dec

0300. Publications

Standard for Potassium Permanganate.....	AWWA B603-68	619 May
Standard for Disinfecting Water Mains.....	AWWA C601-68	1083 Sep

0510. Section Meeting Programs and Records

Resume of Section Meetings During Year.....		1411 Dec
---	--	----------

1000. WATER RESOURCES

Water Industry and Local Government.....	Henry J. Graeser	1 Jan
An Eye to the Future.....	Abel Wolman	1205 Nov

1110. Hydrology (Precipitation, Runoff, Reservoir Yield)

(see also 1510—Dams, Reservoirs, and Intakes; 1600—Watershed Management, Protection, and Use)

Weather Modification, Present and Future.....	Thomas F. Malone	1143 Oct
Snowpack and Water Supply [Calif.].....	William L. Horn	1389 Dec

1120. Geology (Ground Water, Salt Water Intrusion)

(see also 1520—Wells and Infiltration Galleries)

Ground Water Movement.....	Jay H. Lehr	281 Mar
Underground Corrosion and Salt Infiltration		
	Paul M. Berthouex & George A. Prior	345 Mar
Land Subsidence in Pleasant Valley Area, Fresno County, Calif.		
	Nikola P. Prokopovich & David C. Magleby	413 Apr
Correction.....		1103 Oct

	PAGE	MO.
Ground Water Nitrate Distributions Beneath Fresno, Calif. Jerold J. Behnke & E. E. Haskell Jr.	477	Apr
Management of Ground Water Aquifers.....Jack B. Graham	640	Jun
TDS and Specific Gravity in Ground Waters....S. K. Agnihotri & D. N. Tewari	733	Jun
Utilization of Both Ground and Surface Waters [Calif.].....John R. Teerink	809	Jul
Land Subsidence Along the Delta-Mendota Canal, California N. P. Prokopovich & D. J. Hebert	915	Aug
Conjunctive Use of Ground and Surface Waters [Calif.].....John R. Teerink	1149	Oct
Concepts in Ground Water Management.....John F. Mann Jr.	1336	Dec
1210. National Water Policy		
<i>(see also 1220—Regional Resources; 1700—Estimation and Control of Water Use; 2100—Regulation, Legislation, and Government Activities)</i>		
Economics of Water Quality Management.....Edwin L. Johnson	1122	Oct
1220. Regional Resources—Development and Extent		
<i>(see also 2120—Interstate and National Agencies)</i>		
The Great Lakes Water Resource.....H. W. Poston & C. R. Ownbey	15	Jan
New England Water Supply.....William F. Cassidy	21	Jan
Water Resource Planning in New York State.....F. W. Montanari	25	Jan
New York Metropolitan Area Water Resources.....Richard Hazen	32	Jan
Effects of the Northeast Water Crisis on the New York City Water Supply System.....Abraham Groopman	37	Jan
1310. Desalinization		
Guidelines for the Determination of the Feasibility of Desalting Sea Water J. R. Wilson & E. A. Cadwallader	103	Jan
New Concepts for Desalting Brackish Water.....William A. Homer	869	Aug
1320. Reuse		
Wastewater Reclamation at South Tahoe [Calif.] Public Utilities District R. L. Culp	84	Jan
Wastewater Reclamation as a Water Resource Dwight F. Metzler & Heinz B. Russelmann	95	Jan
Ground Water Management and Reclaimed Water [Orange County, Calif.] Langdon W. Owen	135	Feb
Virus Control at the Santee, Calif., Project John C. Merrell Jr. & Paul C. Ward	145	Feb
Addition of Common Ions From Domestic Use of Water.....Ralph L. Evans	315	Mar
Effect of Water Conditioning on Wastewater Quality.....James W. Williams	1329	Dec
1330. Artificial Recharge		
Ground Water Management and Reclaimed Water [Orange County, Calif.] Langdon W. Owen	135	Feb
Utilization of Both Ground and Surface Waters [Calif.].....John R. Teerink	809	Jul
Concepts in Ground Water Management.....John F. Mann Jr.	1336	Dec
Coarse Media Filtration for Artificial Recharge [Peoria, Ill.] Robert H. Harmeson, Roger L. Thomas & Ralph L. Evans	1396	Dec

WA
MO.
Apr
Jun
Jun
Jul
Aug
Oct
Dec

Oct

Jan
Jan
Jan
Jan

Jan

Aug

Jan

Jan
Feb
Feb
Mar
Dec

Dec. 1968

SUBJECT INDEX

1433

PAGE MO.

1400. Quality Surveys

(see also 4100—Quality Standards)

- The Great Lakes Water Resource.....H. W. Poston & C. R. Ownbey 15 Jan
Metallic Elements in Inland Waterways.....Stephen J. Toth 455 Apr
TDS and Specific Gravity in Ground Waters....S. K. Agnihotri & D. N. Tewari 733 Jun
Public Water Supply Quality and AWWA Proposed Goals
F. B. Taylor, J. H. Eagen & F. D. Maddox 764 Jul

1510. Dams, Reservoirs, and Intakes

(see also 1600—Watershed Management, Protection, and Use; 4211—Algae and Weed Control; 5300—Distribution System Storage Facilities)

- Effects of Impoundments on Water Quality in the Southwest—Water Quality in Reservoirs.....J. K. G. Silvey 375 Apr
Actinomycetes and Water Quality.....Kenneth L. Dickson 379 Apr
Productivity of Algae in Three Lakes in Texas.....Ernst M. Davies 381 Apr
Humic Substances in Water and the Effect of Impoundment [Norway]
E. T. Gjessing & J. E. Samdal 451 Apr
Nickel Stainless Steel Screens [S.D.]—Note.....John Klingenberg 495 Apr
Impoundment Destratification for Raw Water Quality Control Using Either Mechanical or Diffused-Air Pumping—Correction.....James M. Symons, William H. Irwin, Ernest L. Robinson & Gordon G. Robeck 1069 Sep

1520. Wells and Infiltration Galleries

(see also 1120—Geology; 1330—Artificial Recharge)

- Well and Well Field Operation.....Fred H. Klaer Jr. 274 Mar
Supervisory Control of a Ground Water Supply [Waterford Twp., Mich.]
Kenneth M. Squiers 425 Apr
New Water Source for Hopi Indian Reservation.....W. J. Whitsell 816 Jul

1600. Watershed Management, Protection, and Use

(see also 4211—Algae and Weed Control; 4400—Quality Maintenance and Pollution Control)

- Effects of Multiple Uses of Watersheds on Water Quality..John M. Rademacher 1247 Nov

1700. Estimation and Control of Water Use

- Meeting the Peak Hour Demand in a Small Water System [Matawan Twp., N.J.]
Harry S. Allen 1350 Dec
Effects of Metering Urban Water.....Steve H. Hanke & J. Ernest Flack 1359 Dec

1710. Water Use Studies and Forecasts

- Water Requirements for Manufacturing..Konstantine L. Kollar & Robert Brewer 1129 Oct
Discussion.....K. S. Watson 1140 Oct

2000. MANAGEMENT AND ADMINISTRATION

- Water Industry and Local Government.....Henry J. Graeser 1 Jan
Charting as an Aid to Organization Planning [Madison, Wis.]..Zenno A. Gorder 237 Feb
Coordinating the Flow of Technical Information.....F. J. Ball & F. M. Cargill 502 May
Setting the Stage for Good Management.....Joseph H. Kuranz 865 Aug
Manager's Role in the Decision-Making Process.....Samuel S. Baxter 1323 Dec
Maintenance Record Systems.....Richard E. Deem 1345 Dec

Trends in Services and Rates—San Diego [Calif.].....	Linden R. Burzell	1233	Nov
Ventura [Calif.].....	Paul E. Owen	1240	Nov
Elizabethtown Water Company [N.J.].....	Robert W. Kean Jr.	1244	Nov

		PAGE	MO.
MO.	2510. Metering		
Jul	Effects of Metering Urban Water.....	Steve H. Hanke & J. Ernest Flack	1359 Dec
Jul	2520. Rate Structures		
Jan	Water Pricing in Residential Areas.....	Charles W. Howe	497 May
Sep	Water Supply Management in Latin America— <i>Comment</i> [Venezuela]	Pedro Pablo Azpurua	743 Jun
Oct	Comment.....	Harold R. Shipman	745 Jun
	New Water Rates for Caracas [Venezuela]		
	Pedro P. Azpurua, Andres Suarez Eduardo & Pedro F. Millan Ruiz	774	Jul
	Rate Problems in Serving Metropolitan Areas—Detroit [Mich.]..	Gerald J. Remus	1109 Oct
Oct	Denver [Colo.].....	R. B. McRae	1110 Oct
	San Francisco [Calif.].....	H. Christopher Medbery	1113 Oct
Jul	2610. Meter Reading		
Sep	Meter Reading Problems [N.Y.], Monroe County		
Sep		R. Bruce Carson & Edwin B. Cobb	286 Mar
	2620. Billing and Collection		
	Computer Use in a Medium-Size Water Utility [Monroe County, N.Y.]		
Feb		R. Bruce Carson	625 Jun
Sep	2710. Wages, Salaries, and Benefits		
Oct	Water Utility Cost Trends—Labor and Material.....	Charles B. Adelman	132 Feb
	Survey of Compensation of Water Utility Personnel, United States and Canada, 1968.....	Committee Report	985 Sep
Oct	2720. Recruitment, Training, and Certification		
Oct	Training Programs in Action—Dallas, Texas.....	Henry J. Graeser	109 Jan
Dec	Detroit [Mich.].....	E. M. Rasinen	114 Jan
	Phoenix, Ariz.....	Art F. Vondrick	117 Jan
Feb	Training Subprofessional Water System Personnel.....	H. E. Hudson Jr.	120 Jan
Mar	Dollar Value of Education and Training—Organized and Unorganized Costs		
Mar		R. S. Fairall	1224 Nov
Mar	Philadelphia Suburban Training [Pa.].....	George H. Dann	1226 Nov
Mar	Training and the Semiliterate.....	Charles M. Bolton	1230 Nov
Oct	2730. Safety		
Oct	Management and Water Utility Safety.....	Mel C. Binney	263 Mar
Feb	Safety Program Brings Results for the Denver [Colo.] Board of Water Commissioners.....	Richard J. Oliphant	1295 Nov
Feb	Discussion.....	Willard W. Anders	1299 Nov
Nov	2800. Public Relations and Consumer Complaints		
Nov	Aesthetics in Design of Water Facilities—Introduction.....	Jerome B. Gilbert	243 Feb
Nov	A Utility's Program [Oakland, Calif.].....	John S. Harnett	244 Feb
	A Reservoir Case History [Belmont County, Calif.].....	Warren A. McClure	246 Feb
	An Architect's Viewpoint.....	S. Richard Komatsu	248 Feb
	A Consulting Engineer's Viewpoint.....	R. Dewey Dickson	250 Feb

Trends in Services and Rates—San Diego [Calif.].....	Linden R. Burzell	1233 Nov
Ventura [Calif.].....	Paul E. Owen	1240 Nov
Elizabethtown Water Company [N.J.].....	Robert W. Kean Jr.	1244 Nov

3000. WATER WORKS OPERATION AND MAINTENANCE

3100. General and Descriptive

(see also 3700—Automatic Operation and Control; 4200—Treatment and Treatment Plants; 6000—Water Supply Outside the US and Canada)

Effects of the Northeast Water Crisis on the New York City Water Supply System.....	Abraham Groopman	37 Jan
Meeting the Peak Hour Demand in a Small Water System [Matawan Twp., N.J.].....	Harry S. Allen	1350 Dec

3200. Overall Plans and Planning

(see also 1220—Regional Resources; 1710—Water Use Studies and Forecasts)

Comprehensive Water System Plan.....	Holly A. Cornell	125 Feb
Water Supply Planning at San Antonio [Tex.].....	Robert P. Van Dyke	388 Apr
Distribution System Planning in Denver, Colo.....	Robert C. McWhinnie	992 Sep
Wholesale Cost Aspects of Water Supply [Calif.].....	Alfred R. Golzé	1367 Dec

3300. Operating Records

Maintenance Record Systems.....	Richard E. Deem	1345 Dec
---------------------------------	-----------------	----------

3410. Costs

Water Utility Cost Trends—Interest Rates.....	Stanley L. Cohen	129 Feb
Estimating Depreciation.....	Ernest C. North	131 Feb
Labor and Material.....	Charles B. Adelman	132 Feb
Effect of Water Conditioning on Wastewater Quality.....	James W. Williams	1329 Dec
Wholesale Cost Aspects of Water Supply [Calif.].....	Alfred R. Golzé	1367 Dec

3510. Corrosion Problems

(see also 4270—Antiscale and Anticorrosion Treatment; and other specific facilities protected)

Soil Evaluation in Relation to Cast-Iron Pipe.....	W. Harry Smith	221 Feb
Underground Corrosion and Salt Filtration.....	Paul M. Berthouex & George A. Prior	345 Mar
Performance of Ductile-Iron Pipe in Soils.....	Melvin Romanoff	645 Jun
Corrosion as a Primary Cause of Cast-Iron Main Breaks.....	John H. Fitzgerald III	882 Aug

3520. Electrical Protection

New Developments in Automatic Cathodic Protection for Water Storage Tanks.....	Van Dyke J. Pollitt	1055 Sep
Los Angeles [Calif.] HVDC Testing and Ground Current Monitoring Program.....	George R. Elder, D. B. Whitney & K. S. Miyoshi	1307 Nov

3700. Automatic Operation and Control

Supervisory Control of a Ground Water Supply [Waterford Twp., Mich.].....	Kenneth M. Squiers	425 Apr
---	--------------------	---------

4000. WATER QUALITY AND TREATMENT

		PAGE	MO.
Effects of Impoundments on Water Quality in the Southwest—Water Quality in Reservoirs.....	J. K. G. Silvey	375	Apr
Actinomycetes and Water Quality.....	Kenneth L. Dickson	379	Apr
Productivity of Algae in Three Lakes in Texas.....	Ernst M. Davies	381	Apr
Humic Substances in Water and the Effect of Impoundment [Norway]			
	E. T. Gjessing & J. E. Samdal	451	Apr
Metallic Elements in Inland Waterways.....	Stephen J. Toth	455	Apr
Effects of Multiple Uses of Watersheds on Water Quality..	John M. Rademacher	1247	Nov
4100. Quality Standards			
(see also 1400—Quality Surveys; 4400—Quality Maintenance and Pollution Control)			
Influence of Stream Quality Standards on Potable Quality—Need for Standards			
	Robert H. Culver	5	Jan
Evaluating Water Quality.....	Carl A. Rambow	10	Jan
Public Water Supply Quality and AWWA Proposed Goals			
	F. B. Taylor, J. H. Eagen & F. D. Maddox	764	Jul
Quality Water: How to Get It.....	Raymond J. Faust	1313	Dec
Quality Goals for Potable Water.....	Statement of Policy	1317	Dec
4110. Health and Hygiene			
(see also 4260—Fluoridation and Defluoridation; 4431—Plumbing and Cross Connections)			
Toxic Effects of Odorous Trace Organics			
	John W. Smith & Sotirios G. Grigoropoulos	969	Aug
4111. Organisms in Water Supplies			
(see also 4211—Algae and Weed Control)			
Virus Control at the Santee, Calif., Project			
	John C. Merrell Jr. & Paul C. Ward	145	Feb
Removal of Poliovirus 1 From Secondary Effluents by Lime Flocculation and Rapid Sand Filtration...	Gerald Borg, Robert B. Dean & Daniel R. Dahling	193	Feb
Discovery and Control of Live Organisms in the Great Yarmouth [Gt. Br.] Water Supply.....	J. H. Phillips	228	Feb
Effects of Impoundments on Water Quality in the Southwest—Water Quality in Reservoirs.....	J. K. G. Silvey	375	Apr
Actinomycetes and Water Quality.....	Kenneth L. Dickson	379	Apr
Productivity of Algae in Three Lakes in Texas.....	Ernst M. Davies	381	Apr
Staining of Free-Living Nematodes by Alcoholic Eosin-Y Dye			
	R. S. Engelbrecht, J. H. Austin, Malay Chaudhuri & Melvin Goodrich	481	Apr
Poliovirus Inactivation in Water-Softening Precipitation Processes			
	David F. Wentworth, Robert T. Thorup & Otis J. Sproul	939	Aug
Nematode Removal by Rapid Sand Filtration			
	A. K. Seth, M. G. George, J. K. Bewtra & V. P. Sharma	962	Aug
The Phosphorus Problem.....	Kenneth M. Mackereth	1047	Sep
Biologic Degradation of Rubber Gaskets Used for Sealing Pipe Joints			
	Karel W. H. Leeftang	1070	Sep
Effect of Coagulation on the Microflotation of <i>Bacillus cereus</i>			
	Alan J. Rubin & Stephan C. Lackey	1156	Oct

- Microbial Considerations in Drinking Water.....Paul W. Kabler 1173 Oct
 A Simple Method for Concentrating and Detecting Viruses in Water
 V. Chalapati Rao, Robert Sullivan, Ralston B. Read & Norman A. Clarke 1288 Nov

4120. Bacteriologic and Biologic Analyses

- Staining of Free-Living Nematodes by Alcoholic Eosin-Y Dye
 R. S. Engelbrecht, J. H. Austin, Malay Chaudhuri & Melvin Goodrich 481 Apr
 A Simple Method for Concentrating and Detecting Viruses in Water
 V. Chalapati Rao, Robert Sullivan, Ralston B. Read & Norman A. Clarke 1288 Nov

4130. Chemical and Physical Analyses

(see also 0300—Publications)

- Analysis of Yellow Organic Matter From Fresh Water
 R. B. Midwood & G. T. Felbeck Jr. 357 Mar
 Correction 704 Jun
 Gas Chromatographic Studies on Taste and Odor in Water
 J. K. G. Silvey, W. H. Glaze, Albert Hendricks, Don Henley & Jim Matlock 440 Apr
 Determination of Free Residual Chlorine in Water by Para-Aminodiethylaniline
 John G. Bjorklund & M. C. Rand 608 May
 Eriochrome Cyanine R Method for Aluminum Determination—Comment
 Malay Chaudhuri & R. S. Engelbrecht 618 May
 Tentative Method for Metals in Water..... 739 Jun
 Determination of the Herbicide Dimethylamine Salt of 2,4-Dichlorophenoxyacetic
 Acid in Surface Water.....Ernest T. Wilder 827 Jul
 Determination of Nitrogen Trichloride in Water.....Arthur T. Palin 847 Jul
 Detecting LSD—Note.....USPHS Report 863 Jul
 Toxic Inorganic Materials and Their Emergency Detection by the Polarographic
 Method.....Harry Offner & Edward F. Witucki 947 Aug
 Selective Ion Electrode System for Fluoride Analysis
 Russell H. Babcock & Kenneth A. Johnson 953 Aug

4140. Laboratory and Field Equipment and Technique

(see also 4120—Bacteriologic and Biologic Analyses; 4130—Chemical and Physical Analyses)

- Gas Chromatographic Studies on Taste and Odor in Water
 J. K. G. Silvey, W. H. Glaze, Albert Hendricks, Don Henley & Jim Matlock 440 Apr
 Selective Ion Electrode System for Fluoride Analysis
 Russell H. Babcock & Kenneth A. Johnson 953 Aug

4200. Treatment and Treatment Plants

(see also 3100—General and Descriptive; 3700—Automatic Operation and Control)

- New Water Treatment Plant for Sidney, Australia—Background....H. G. Sweet 781 Jul
 Design.....Joseph C. Lawler 793 Jul

4201. Sludge Disposal

- Characterization and Conditioning of Water Treatment Plant Sludge
 Charles D. Gates & Raymond F. McDermott 331 Mar
 Selection of Disposal Methods for Water Treatment Plant Wastes
 Donald P. Proudfit 674 Jun

MO.		PAGE	MO.
Oct	Water Treatment Plant Sludge Disposal Practices in the United Kingdom E. F. Young	717	Jun
Nov	Waste Alum Sludge Treatment.....Walter K. Neubauer	819	Jul
	4210. Taste and Odor Control		
	Gas Chromatographic Studies on Taste and Odor in Water J. K. G. Silvey, W. H. Glaze, Albert Hendricks, Don Henley & Jim Matlock	440	Apr
Apr	Standard for Potassium Permanganate.....AWWA B603-68	619	May
Nov	Toxic Effects of Odorous Trace Organics John W. Smith & Sotirios G. Grigoropoulos	969	Aug
	Odor Control With Carbon and Permanganate at Des Moines [Iowa] John R. Maloney	1195	Oct
	4211. Algae and Weed Control (see also 4111—Organisms in Water Supplies)		
Mar	Precise Chemical Control of Algae in Ponds.....S. J. Toth & D. N. Riemer	367	Mar
	4220. Pretreatment (Coagulation, Flocculation, Sedimentation, Clarification)		
Apr	Coagulation of Colloidal Hydrous Manganese Dioxide Hans S. Posselt, Arno H. Reidies & Walter J. Weber Jr.	48	Jan
May	Correction.....	773	Jul
May	Correction.....	1366	Dec
Jun	Pilot Plant Studies of Floc Blanket Clarification Derek G. Miller & John T. West	154	Feb
Jul	Coagulation Control.....Walter R. Conley & Richard H. Evers	165	Feb
Jul	Polymer Flocculation Kinetics of Dilute Colloidal Suspensions Francis B. Birkner & James J. Morgan	175	Feb
Aug	Use of Pilot Filters to Predict Optimum Chemical Feeds J. F. Kreissl, G. G. Robeck & G. A. Sommerville	299	Mar
Aug	High Energy Flocculation and Air-and-Water Backwashing.....J. D. Walker	321	Mar
	Use of Filter Conditioners in Water Treatment—Correction G. D. Geise, R. W. Pitman & G. W. Wells	398	Apr
	Effect of Ionic Environment and Temperature on the Coagulation of Color-Caus- ing Organic Compounds With Ferric Sulfate Jeanette S. Maulding & Robert H. Harris	460	Apr
	Stoichiometry of Coagulation.....Werner Stumm & Charles R. O'Melia	514	May
Apr	Solids Concentration and Performance of Solids Contact Softeners Russell E. Kross, Neil B. Fisher & Wayne L. Paulson	597	May
Aug	Floc Volume Concentration.....Thomas R. Camp	656	Jun
	High-Rate Sedimentation in Water Treatment Works Gordon Culp, Sigurd Hansen & Gordon Richardson	681	Jun
	Removal of Trace Metals by Foam Separation Processes.....Alan J. Rubin	847	Jul
	Filtration Optimization Utilization Polyphosphates C. V. Smith Jr. & S. J. Medlar	921	Aug
	A Size-Density Relationship for Flocs Ashok L. Lagvankar & Robert S. Gemmell	1040	Sep
	Correction.....	1335	Dec
	Coagulant Aids for Water Treatment.....	1094	Sep
far	Effect of Coagulation on the Microflotation of <i>Bacillus cereus</i> Alan J. Rubin & Stephan C. Lackey	1156	Oct
un	Activated Silica as a Filter Conditioner..Raymond W. Pitman & Glen W. Wells	1167	Oct
	The Chemistry of High-Rate Water Treatment.....J. William Moffett	1255	Nov

High Energy Flocculation.....	J. D. Walker	1271	Nov
Reactions of Metal Ions in Dilute Aqueous Solution: Hydrolysis of Aluminum	J. H. Sullivan Jr. & J. E. Singley	1280	Nov

4230. Filtration

High Energy Flocculation and Air-and-Water Backwashing.....	J. D. Walker	321	Mar
Use of Filter Conditioners in Water Treatment— <i>Correction</i>	G. D. Geise, R. W. Pitman & G. W. Wells	398	Apr
Comparison of Normal and Reverse-Graded Filtration	Rudolph W. Oeben, Howard P. Haines & Kenneth J. Ives	429	Apr
Backwash Investigation and a Proposed Simple Uniformity Control	A. Adler Hirsch	570	May
High-Rate Sedimentation in Water Treatment Works	Gordon Culp, Sigurd Hansen & Gordon Richardson	681	Jun
Necessary Modifications for High-Rate Filtration.....	Mark C. Culbreath	699	Jun
Nematode Removal by Rapid Sand Filtration	A. K. Seth, M. G. George, J. K. Bewtra & V. P. Sharma	862	Aug
Simultaneous Plant-Scale Tests of Mixed Media and Rapid Sand Filters [Green-ville, Tex.].....	James E. Laughlin & T. E. Duvall	1015	Sep
Upflow Filtration Process.....	Carl L. Hamann & Ross E. McKinney	1023	Sep
Activated Silica as a Filter Conditioner..	Raymond W. Pitman & Glen W. Wells	1167	Oct
The Chemistry of High-Rate Water Treatment.....	J. William Moffett	1255	Nov
Filters in a Lime Softening Plant [St. Louis County, Mo.]	J. L. Tuepker & C. A. Buescher Jr.	1377	Dec

4240. Disinfection(see also 5600—*Pipe Installation and Maintenance*)

Iodine for the Disinfection of Water....	A. P. Black, W. C. Thomas Jr., R. N. Kinman, W. P. Bonner, M. A. Keirn, J. J. Smith Jr. & A. A. Jabero	69	Jan
Removal of Poliovirus 1 From Secondary Effluents by Lime Flocculation and Rapid Sand Filtration....	Gerald Berg, Robert B. Dean & Daniel R. Dahling	193	Feb
Discovery and Control of Live Organisms in the Great Yarmouth [Gt. Br.] Water Supply.....	J. H. Phillips	228	Feb
Microbial Considerations in Drinking Water.....	Paul W. Kabler	1173	Oct

4241. Chlorination

Chlorination and Dechlorination: A Scientific and Practical Approach	George C. White	540	May
Discussion.....	Elwood L. Bean	555	May
Discussion.....	D. B. Williams	558	May
Closing Comment.....	George C. White	560	May
Determination of Free Residual Chlorine in Water by Para-Aminodiethylaniline	John G. Bjorklund & M. C. Rand	608	May
Standard for Disinfecting Water Mains.....	AWWA C601-68	1083	Sep

4250. Softening and Iron-Manganese-Color Removal(see also 1310—*Desalinization*)

Coagulation of Colloidal Hydrrous Manganese Dioxide	Hans S. Posselt, Arno H. Reidies & Walter J. Weber Jr.	48	Jan
Correction.....		773	Jul

MO.

Nov

Nov

Mar

Apr

Apr

May

Jun

Jun

Aug

Sep

Sep

Oct

Nov

Dec

PAGE MO.

Chemical Interactions of Dissolved Silica With Iron (II) and (III)
John E. Schenk & Walter J. Weber Jr. 199 Feb

Analysis of Yellow Organic Matter From Fresh Water
R. B. Midwood & G. T. Felbeck Jr. 357 Mar

Correction 704 Jun

Humic Substances in Water and the Effect of Impoundment [Norway]
E. T. Gjessing & J. E. Samdal 451 Apr

Effect of Ionic Environment and Temperature on the Coagulation of Color-Caus-
ing Organic Compounds With Ferric Sulfate

Jeanette S. Maulding & Robert H. Harris 460 Apr

Solids Concentration and Performance of Solids Contact Softeners
Russell E. Kross, Neil B. Fisher & Wayne L. Paulson 597 May

Poliovirus Inactivation in Water-Softening Precipitation Processes
David F. Wentworth, Robert T. Thorup & Otis J. Sproul 939 Aug

Lime and Caustic Soda Softening at Fremont, Ohio.....John S. Hess 980 Aug

Effect of Water Conditioning on Wastewater Quality.....James W. Williams 1329 Dec

Filters in a Lime Softening Plant [St. Louis County, Mo.]
J. L. Tuepker & C. A. Buescher Jr. 1377 Dec

4260. Fluoridation and Defluoridation

Selective Ion Electrode System for Fluoride Analysis
Russell H. Babcock & Kenneth A. Johnson 953 Aug

Status of Fluoridation in the United States and Canada, 1966
Committee Report 1199 Oct

4270. Antiscale and Anticorrosion Treatment

(see also 3510—Corrosion Problems)

Loss in Water Main Carrying Capacity—Correction
T. E. Larson & Frank W. Sollo Jr. 997 Sep

Effects of Highly Mineralized Water on Household Plumbing and Appliances
W. L. Patterson & R. F. Banker 1060 Sep

4280. Chemical Handling and Feeding

(see also under various types of treatment)

Bulk Handling of Activated Carbon.....A. Y. Hyndshaw 562 May

4290. Industrial and Boiler Water

Water Requirements for Manufacturing..Konstantine L. Kollar & Robert Brewer 1129 Oct

Discussion.....K. S. Watson 1140 Oct

4300. Contaminants in Water Supplies

(see also 4400—Quality Maintenance and Pollution Control)

Toxic Inorganic Materials and Their Emergency Detection by the Polarographic
Method.....Harry G. Offner & Edward F. Witucki 947 Aug

4310. Organic Contaminants

Trace Organics in Missouri Subsurface Waters
Sotirios G. Grigoropoulos & John W. Smith 586 May

Toxic Effects of Odorous Trace Organics
John W. Smith & Sotirios G. Grigoropoulos 969 Aug

The Phosphorus Problem.....Kenneth M. Mackenthun 1047 Sep

Jan

Jul

4330. Herbicides and Pesticides

- Determination of the Herbicide Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid in Surface Water.....Ernest T. Wilder 827 Jul

4342. Radioactivity—Prevention and Removal

- Removal of Radioisotopes From Water by Slurrying With Yazoo and Zilpha Clays.....Clinton L. Sumrall III & E. Joe Middlebrooks 485 Apr

4400. Quality Maintenance and Pollution Control

(see also 1600—*Watershed Management, Protection, and Use*; 2100—*Regulation, Legislation, and Government Activities*; 4300—*Contaminants in Water Supplies*)

- The Great Lakes Water Resource.....H. W. Poston & C. R. Ownbey 15 Jan
Economics of Water Quality Management.....Edwin L. Johnson 1122 Oct
Concepts in Ground Water Management.....John F. Mann Jr. 1336 Dec

4410. Sewage and Industrial Wastes

- Virus Control at the Santee, Calif., Project..John C. Merrell Jr. & Paul C. Ward 145 Feb
Addition of Common Ions From Domestic Use of Water.....Ralph L. Evans 315 Mar

4431. Plumbing and Cross Connections

(see also 4110—*Health and Hygiene*)

- Cross-Connection Control Program [Seattle, Wash.]
J. C. Ramey & N. R. Angvik 213 Feb
Cross-Connection Control at Los Angeles [Calif.]
Ernest J. Havlina & James F. Wickser 804 Jul
Effects of Highly Mineralized Water on Household Plumbing and Appliances
W. L. Patterson & R. F. Banker 1060 Sep

5000. DISTRIBUTION SYSTEM OPERATION**5010. Cold-Weather Operation**

- Arctic Water Storage [Alaska].....Jules B. Cohen & Barrett E. Benson 291 Mar
Snowpack and Water Supply [Calif.].....William L. Horn 1389 Dec

5100. Design

- Design for Unbalanced Thrust for Buried Water Conduits..Charles A. Manganaro 705 Jun
Correction..... 1395 Dec
Concrete Reservoir Design.....Russell C. Kenmir 1181 Oct

5110. Hydraulics

- Computers in Distribution Analysis [Sub. D.C.].....Alfred Machis 634 Jun
Calculation of Water Hammer Pressure Due to Valve Closure....Don J. Wood 1301 Nov

5300. Distribution System Storage Facilities

- Aesthetics in Design of Water Facilities—Introduction.....Jerome B. Gilbert 243 Feb
A Utility's Program [Oakland, Calif.].....John S. Harnett 244 Feb
A Reservoir Case History [Belmont County, Calif.]....Warren A. McClure 246 Feb
An Architect's Viewpoint.....S. Richard Komatsu 248 Feb
A Consulting Engineer's Viewpoint.....R. Dewey Dickson 250 Feb
Arctic Water Storage [Alaska].....Jules B. Cohen & Barrett E. Benson 291 Mar

Coatings for Water Storage Tanks.....	D. W. Christofferson	399	Apr
Computers in Distribution Analysis [Sub. D.C.].....	Alfred Machis	634	Jun
Distribution System Planning in Denver, Colo.....	Robert C. McWhinnie	992	Sep
New Developments in Automatic Cathodic Protection for Water Storage Tanks	Van Dyke J. Pollitt	1055	Sep
Concrete Reservoir Design.....	Russell C. Kenmir	1181	Oct

5400. Pumps, Motors, and Engines

Pump Incorporates New Principle— <i>Note</i>	H. G. Bartels	984	Aug
--	---------------	-----	-----

5500. Pipe, Tubing, and Conduits

(see also 3510—*Corrosion Problems*; 5600—*Pipe Installation and Maintenance*; 5820—*Service Lines*)

Design for Unbalanced Thrust for Buried Water Conduits	Charles A. Manganaro	705	Jun
Loss in Water Main Carrying Capacity— <i>Correction</i>	T. E. Larson & Frank W. Sollo Jr.	997	Sep

5510. Cast-Iron Pipe

Soil Evaluation in Relation to Cast-Iron Pipe.....	W. Harry Smith	221	Feb
Corporation Stop Retention Capacity of Ductile-Iron and Gray-Iron Pipe	John H. Becque	408	Apr
Performance of Ductile-Iron Pipe in Soils.....	Melvin Romanoff	645	Jun
Crossing the Meramec River [St. Louis County, Mo.].....	A. M. Tinkey	755	Jul
Corrosion as a Primary Cause of Cast-Iron Main Breaks	John H. Fitzgerald III	882	Aug

5540. Plastic Pipe

Recent Developments in Thermoplastic Piping.....	Frank W. Reinhart	1404	Dec
--	-------------------	------	-----

5600. Pipe Installation and Maintenance

Properties of Sulfur-Base Pipe-Jointing Compounds— <i>Comment</i>	P. S. Wilson	372	Mar
Crossing the Meramec River [St. Louis County, Mo.].....	A. M. Tinkey	755	Jul
Foam Swabs for Water Main Cleaning.....	Clive A. Jenkins	899	Aug
Pigs in the Water Pipe [Fort Worth, Tex.].....	W. Ralph Hardy	909	Aug
Biologic Degradation of Rubber Gaskets Used for Sealing Pipe Joints	Karel W. H. Leeftang	1070	Sep
Standard for Disinfecting Water Mains.....	AWWA C601-68	1083	Sep

5700. Valves and Hydrants

Rubber-Seated Butterfly Valves for Distribution Systems....	Donald P. Proudfit	505	May
Calculation of Water Hammer Pressure Due to Valve Closure.....	Don J. Wood	1301	Nov

5820. Service Lines and Fittings

(see also 4431—*Plumbing and Cross Connections*)

Corporation Stop Retention Capacity of Ductile-Iron and Gray-Iron Pipe	John H. Becque	408	Apr
Effects of Highly Mineralized Water on Household Plumbing and Appliances	W. L. Patterson & R. F. Banker	1060	Sep
Recent Developments in Thermoplastic Piping.....	Frank W. Reinhart	1404	Dec

6000. WATER SUPPLY OUTSIDE THE US AND CANADA

	PAGE	MO.
Discovery and Control of Live Organisms in the Great Yarmouth [Gt. Br.]		
Water Supply.....J. H. Phillips	228	Feb
Best Climate in the World [Gt. Br.]— <i>Note</i>Delwyn Davies	372	Mar
Water Works Improvements at Manila, Philippines.....G. E. Arnold	393	Apr
Humic Substances in Water and the Effect of Impoundment [Norway]		
E. T. Gjessing & J. E. Samdal	451	Apr
Water Treatment Plant Sludge Disposal Practices in the United Kingdom		
E. F. Young	717	Jun
Water Supply Management in Latin America— <i>Comment</i> [Venezuela]		
Pedro Pablo Azpurua	743	Jun
<i>Comment</i>Harold R. Shipman	745	Jun
New Water Rates for Caracas [Venezuela]		
Pedro P. Azpurua, Andres Sucre Eduardo & Pedro F. Millan Ruiz	774	Jul
New Water Treatment Plant for Sidney, Australia—Background...H. G. Sweet	781	Jul
Design.....Joseph C. Lawler	793	Jul

7000. RESEARCH AND STATISTICS

7100. Research Needs and Programs

Coordinating the Flow of Technical Information.....F. J. Ball & F. M. Cargill	502	May
Status of Water Research in the United States.....Roland R. Renne	749	Jul

7200. Surveys and Statistical Analyses

(see also 1400—*Quality Surveys*)

Survey of Compensation of Water Utility Personnel, United States and Canada, 1968.....Committee Report	985	Sep
Effects of Highly Mineralized Water on Household Plumbing and Appliances		
W. L. Patterson & R. F. Banker	1060	Sep
Water Requirements for Manufacturing..Konstantine L. Kollar & Robert Brewer	1129	Oct
Discussion.....K. S. Watson	1140	Oct
Status of Fluoridation in the United States and Canada, 1966..Committee Report	1199	Oct

Author Index

- ADELMANN, CHARLES B.; water utility cost trends—labor and material, 132
- AGNIHOTRI, S. K. & TEWARI, D. N.; TDS and specific gravity in ground waters, 733
- ALLEN, HARRY S.; meeting the peak hour demand in a small water system, 1350
- ANDERS, WILLARD W.; *discussion*—safety program brings results for the Denver board of water commissioners, 1299
- ANGVIK, N. R. (*with* RAMEY); cross-connection control program, 213
- ARNOLD, G. E.; water works improvements at Manila, Philippines, 393
- AUSTIN, J. H. (*with* ENGELBRECHT ET AL.); staining of free-living nematodes by alcoholic eosin-Y dye, 481
- AZPURUA, PEDRO PABLO; EDUARDO, ANDRES SUCRE; & RUIZ, PEDRO F. MILLAN; new water rates for Caracas, 774
- AZPURUA, PEDRO PABLO; *comment*—water supply management in Latin America, 743
- BABCOCK, RUSSELL H. & JOHNSON, KENNETH A.; selective ion electrode system for fluoride analysis, 953
- BALL, F. J. & CARGILL, F. M.; coordinating the flow of technical information, 502
- BANKER, R. F. (*with* PATTERSON); effects of highly mineralized water on household plumbing and appliances, 1060
- BARTELS, H. G.; *note*—pump incorporates new principle, 984
- BAXTER, SAMUEL S.; manager's role in the decision-making process, 1323
- BEAN, ELWOOD L.; *discussion*—chlorination and dechlorination: a scientific and practical approach, 555
- BECQUE, JOHN H.; corporation stop retention capacity of ductile-iron and gray-iron pipe, 408
- BEHNKE, JEROLD J. & HASKELL, E. E., JR.; ground water nitrate distributions beneath Fresno, Calif., 477
- BENSON, BARRETT E. (*with* COHEN); Arctic water storage, 291
- BERG, GERALD; DEAN, ROBERT B.; & DAHLING, DANIEL R.; removal of poliovirus 1 from secondary effluents by lime flocculation and rapid sand filtration, 193
- BERTHOUEX, PAUL M. & PRIOR, GEORGE A.; underground corrosion and salt infiltration, 345
- BEWTRA, J. K. (*with* SETH ET AL.); nematode removal by rapid sand filtration, 962
- BINNEY, MEL C.; management and water utility safety, 263
- BIRKNER, FRANCIS B. & MORGAN, JAMES J.; polymer flocculation kinetics of dilute colloidal suspensions, 175
- BJORKLUND, JOHN G. & RAND, M. C.; determination of free residual chlorine in water by para-aminodiethylaniline, 608
- BLACK, A. P.; THOMAS, W. C., JR.; KINMAN, R. N.; BONNER, W. P.; KEIRN, M. A.; SMITH, J. J., JR.; & JABERO, A. A.; iodine for the disinfection of water, 69
- BOGUE, STUART H.; financial management of a water utility, 267
- BOLTON, CHARLES M.; dollar value of education and training—training and the semiliterate, 1230
- BONNER, W. P. (*with* BLACK ET AL.); iodine for the disinfection of water, 69
- BREWER, ROBERT (*with* KOLLAR); water requirements for manufacturing, 1129
- BUESCHER, C. A., JR. (*with* TUEPKER); operation and maintenance of rapid sand and mixed-media filters in a lime softening plant, 1377
- BURZELL, LINDEN R.; trends in services and rates—San Diego, 1233
- CADWALLADER, E. A. (*with* WILSON); guidelines for the determination of the feasibility of desalting sea water, 103
- CAMP, THOMAS R.; floc volume concentration, 656
- CAMPBELL, ERNEST H.; legal aspects of water utility operation, 852
- CARGILL, F. M. (*with* BALL); coordinating the flow of technical information, 502
- CARSON, R. BRUCE; computer use in a medium-size water utility, 625
- CARSON, R. BRUCE & COBB, EDWIN B.; meter reading problems, 286
- CASSIDY, WILLIAM F.; New England water supply, 21

- CHAUDHURI, MALAY (*with ENGELBRECHT ET AL.*); staining of free-living nematodes by alcoholic eosin-Y dye, 481
- CHAUDHURI, MALAY & ENGELBRECHT, R. S.; *comment*—eriochrome cyanine R method for aluminum determination, 618
- CHRISTOFFERSON, D. W.; coatings for water storage tanks, 399
- CLARKE, NORMAN A. (*with RAO ET AL.*); a simple method for concentrating and detecting viruses in water, 1288
- COBB, EDWIN B. (*with CARSON*); meter reading problems, 286
- COHEN, JULES B. & BENSON, BARRETT E.; Arctic water storage, 291
- COHEN, STANLEY L.; water utility cost trends—interest rates, 129
- CONLEY, WALTER R. & EVERS, RICHARD H.; coagulation control, 165
- CORNELL, HOLLY A.; comprehensive water system plant, 125
- CULP, GORDON; HANSEN, SIGURD; & RICHARDSON, GORDON; high-rate sedimentation in water treatment works, 681
- CULP, R. L.; wastewater reclamation at South Tahoe public utilities district, 84
- CULVER, ROBERT H.; influence of stream quality standards on potable quality—need for standards, 5
- DAHLING, DANIEL R. (*with BERG & DEAN*); removal of poliovirus 1 from secondary effluents by lime flocculation and rapid sand filtration, 193
- DANN, GEORGE H.; dollar value of education and training—Philadelphia Suburban training, 1226
- DAVIES, DELWYN; *note*—best climate in the world, 372
- DAVIS, ERNST M.; effects of impoundments on water quality in the Southwest—productivity of algae in three lakes in Texas, 381
- DEAN, ROBERT B. (*with BERG & DAHLING*); removal of poliovirus 1 from secondary effluents by lime flocculation and rapid sand filtration, 193
- DEEM, RICHARD E.; maintenance record systems, 1345
- DICKSON, KENNETH L.; effects of impoundments on water quality in the Southwest—actinomycetes and water quality, 379
- DICKSON, R. DEWEY; aesthetics in the design of water facilities—a consulting engineer's viewpoint, 250
- DUVALL, T. E. (*with LAUGHLIN*); simultaneous plant-scale tests of mixed media and rapid sand filters, 1015
- EAGEN, J. H. (*with TAYLOR & MADDOX*); public water supply quality and AWWA proposed goals, 764
- EDUARDO, ANDRES SUCRE (*with AZPURUA & RUIZ*); new water rates for Caracas, 774
- ELDER, GEORGE R.; WHITNEY, DENNIS B.; & MIYOSHI, KENNETH S.; Los Angeles HVDC testing and ground current monitoring program, 1307
- ENGELBRECHT, R. S.; AUSTIN, J. H.; CHAUDHURI, MALAY; & GOODRICH, MELVIN; staining of free-living nematodes by alcoholic eosin-Y dye, 481
- EVANS, RALPH L.; addition of common ions from domestic use of water, 315
- EVANS, RALPH L. (*with HARMESON & THOMAS*); coarse media filtration for artificial recharge, 1396
- EVERS, RICHARD H. (*with CONLEY*); coagulation control, 165
- FAIRALL, R. S.; dollar value of education and training—organized and unorganized costs, 1224
- FAUST, RAYMOND J.; quality water: how to get it, 1313
- FELBECK, G. T. JR. (*with MIDWOOD*); analysis of yellow organic matter from fresh water, 357; *erratum*, 704
- FILBY, ELLSWORTH L.; milestones along the way of AWWA, 1210
- FISHER, NEIL B. (*with KROSS & PAULSON*); solids concentration and performance of solids contact softeners, 597
- FITZGERALD, JOHN H., III; corrosion as a primary cause of cast-iron main breaks, 882
- FLACK, J. ERNEST (*with HANKE*); effects of metering urban water, 1359
- GATES, CHARLES D. & McDERMOTT, RAYMOND F.; characterization and conditioning of water treatment plant sludge, 331
- GEMMELL, ROBERT S. (*with LAGVANKAR*); a size-density relationship for flocs, 1040; *erratum*, 1335
- GEORGE, M. G. (*with SETH ET AL.*); nematode removal by rapid sand filtration, 961
- GILBERT, JEROME B.; aesthetics in the design of water facilities—introduction, 243

- GJESSING, T. T. & SAMDAL, J. E.; humic substances in water and the effect of impoundment, 451
- GLAZE, W. H. (*with SILVEY ET AL.*); gas chromatographic studies on taste and odor in water, 440
- GOLZÉ, ALFRED R.; wholesale cost aspects of water supply, 1367
- GOODRICH, MELVIN (*with ENGELBRECHT ET AL.*); staining of free-living nematodes by alcoholic eosin-Y dye, 481
- GORDER, ZENNO A.; charting as an aid to organization planning, 237
- GRAESER, HENRY J.; water industry and local government, 1
- GRAESER, HENRY J.; training programs in action—Dallas, Tex., 109
- GRAHAM, JACK B.; management of ground water aquifers, 640
- GRIGOROPOULOS, SOTIRIOS G. & SMITH, JOHN W.; trace organics in Missouri subsurface waters, 586
- GRIGOROPOULOS, SOTIRIOS G. (*with J. W. SMITH*); toxic effects of odorous trace organics, 969
- GROOPMAN, ABRAHAM; effects of the Northeast water crisis on the New York City water supply system, 37
- HAINES, H. P. (*with OEBEN & IVES*); comparison of normal and reverse-graded filtration, 429
- HAMANN, CARL & MCKINNEY, ROSS E.; upflow filtration process, 1023
- HANKE, STEVE H. & FLACK, J. ERNEST; effects of metering urban water, 1359
- HANSEN, SIGURD (*with CULP & RICHARDSON*); high-rate sedimentation in water treatment works, 699
- HARDY, W. RALPH; pigs in the water pipe, 909
- HARMESON, ROBERT H.; THOMAS, ROGER L.; & EVANS, RALPH L.; coarse media filtration for artificial recharge, 1396
- HARNETT, JOHN S.; aesthetics in the design of water facilities—a utility's program, 244
- HARRIS, ROBERT H. (*with MAULDING*); effect of ionic environment and temperature on the coagulation of color-causing organic compounds with ferric sulfate, 460
- HASKELL, E. E., JR. (*with BEHNKE*); ground water nitrate distributions beneath Fresno, Calif., 477
- HAVLINA, ERNEST J. & WICKSER, JAMES F.; cross-connection control at Los Angeles, 804
- HAZEN, RICHARD; New York metropolitan area water resources, 32
- HAZEN, RICHARD; taxation as a source of water utility income, 1095
- HEBERT, D. J. (*with PROKOPOVICH*); land subsidence along the Delta-Mendota Canal, California, 915
- HENDRICKS, ALBERT (*with SILVEY ET AL.*); gas chromatographic studies on taste and odor in water, 440
- HENLEY, DON (*with SILVEY ET AL.*); gas chromatographic studies on taste and odor in water, 440
- HESS, JOHN S.; lime and caustic soda softening at Fremont, Ohio, 970
- HIRSCH, A. ADLER; backwash investigation and a proposed simple uniformity control, 570
- HOMER, WILLIAM A.; new concepts for desalting brackish water, 869
- HORN, WILLIAM L.; snowpack and water supply, 1389
- HOWE, CHARLES W.; water pricing in residential areas, 497
- HUDSON, HERBERT E., JR.; training subprofessional water system personnel, 120
- HYNDSHAW, A. Y.; bulk handling of activated carbon, 562
- IVES, K. J. (*with OEBEN & HAINES*); comparison of normal and reverse-graded filtration, 429
- JABERO, A. A. (*with BLACK ET AL.*); iodine for the disinfection of water, 69
- JENKINS, CLIVE A.; foam swabs for water main cleaning, 899
- JENSEN, ROBERT G.; liability insurance: a water utility's experience, 998
- JOHNSON, EDWIN L.; economics of water quality management, 1122
- JOHNSON, KENNETH A. (*with BABCOCK*); selective ion electrode system for fluoride analysis, 953
- KABLER, PAUL W.; microbial considerations in drinking water, 1173
- KEAN, ROBERT W., JR.; trends in services and rates—Elizabethtown Water Company, 1244

- KEIRN, M. A. (with BLACK ET AL.); iodine for the disinfection of water, 69
- KENMIR, RUSSELL C.; concrete reservoir design, 1181
- KINMAN, R. N. (with BLACK ET AL.); iodine for the disinfection of water, 69
- KLAER, FRED H., JR.; well and well field operation, 273
- KLINGENBERG, JOHN; note—nickel stainless steel screens, 495
- KOLLAR, KONSTANTINE L. & BREWER, ROBERT; water requirements for manufacturing, 1129
- KOMATSU, S. RICHARD; aesthetics in the design of water facilities—an architect's viewpoint, 248
- KREISSL, J. F.; ROBECK, G. G.; & SOMMERVILLE, G. A.; use of pilot filters to predict optimum chemical feeds, 299
- KROSS, RUSSELL E.; FISHER, NEIL B.; & PAULSON, WAYNE L.; solids concentration and performance of solids contact softeners, 597
- KURANZ, JOSEPH H.; setting the stage for good management, 865
- LACKEY, STEPHAN C. (with RUBIN); effect of coagulation on the microflotation of *Bacillus cereus*, 1156
- LAGVANKAR, ASHOK L. & GEMMELL, ROBERT S.; a size-density relationship for flocs, 1040; *erratum*, 1335
- LAUGHLIN, JAMES & DUVAL, T. E.; simultaneous plant-scale tests of mixed media and rapid sand filters, 1015
- LAWLER, JOSEPH; new water treatment plant for Sidney, Australia—design, 793
- LEEPLANG, KAREL W. H.; biologic degradation of rubber gaskets used for sealing pipe joints, 1070
- LEHR, JAY H.; ground water movement, 281
- MACHIS, ALFRED; computers in distribution analysis, 634
- MACKENTHUM, KENNETH M.; the phosphorus problem, 1047
- MADDOX, F. D. (with TAYLOR & EAGEN); public water supply quality and AWWA proposed goals, 764
- MAGLEBY, DAVID C. (with PROKOPOVICH); land subsidence in Pleasant Valley area, Fresno County, Calif., 413; *erratum*, 1103
- MALONE, THOMAS F.; weather modification, present and future, 1143
- MALONEY, JOHN R.; odor control with carbon and permanganate at Des Moines, 1195
- MANGANARO, CHARLES A.; design for unbalanced thrust for buried water conduits, 705; *erratum*, 1395
- MANN, JOHN F., JR.; concepts in ground water management, 1336
- MATLOCK, JIM (with SILVEY ET AL.); gas chromatographic studies on taste and odor in water, 440
- MAULDING, JEANETTE S. & HARRIS, ROBERT H.; effect of ionic environment and temperature on the coagulation of color-causing organic compounds with ferric sulfate, 460
- MCCLURE, WARREN A.; aesthetics in the design of water facilities—a reservoir case history, 246
- MCDERMOTT, RAYMOND F. (with GATES); characterization and conditioning of water treatment plant sludge, 331
- MCKINNEY, ROSS E. (with HAMANN); up-flow filtration process, 1023
- MCLEOD, ROBERT J.; place of federal grants and loans in utility financing, 1104
- MCRAE, R. B.; rate problems in serving metropolitan areas—Denver, 1110
- MEDBERY, H. CHRISTOPHER; rate problems in serving metropolitan areas—San Francisco, 1122
- MEDLAR, S. J. (with SMITH); filtration optimization utilizing polyphosphates, 921
- MERRELL, JOHN C. & WARD, PAUL C.; virus control at the Santee, Calif., project, 145
- METZLER, DWIGHT F. & RUSSELMANN, HEINZ B.; wastewater reclamation as a water resource, 95
- MIDDLEBROOKS, E. JOE (with SUMRALL); removal of radioisotopes from water by slurring with Yazoo and Zilpha clays, 485
- MIDWOOD, R. B. & FELBECK, G. T., JR.; analysis of yellow organic matter from fresh water, 357; *erratum*, 704
- MILLER, DEREK G. & WEST, JOHN T.; pilot plant studies of floc blanket clarification, 154
- MIYOSHI, KENNETH S. (with ELDER & WHITNEY); Los Angeles HVDC testing and ground current monitoring program, 1307
- MOFFETT, J. WILLIAM; the chemistry of high-rate water treatment, 1255

- MONTANARI, F. W.; water resource planning in New York State, 25
- MOON, CHARLES R.; water systems financing and expansion—legal aspects, 258
- MORGAN, JAMES J. (with BIRKNER); polymer flocculation kinetics of dilute colloidal suspensions, 175
- NEUBAUER, WALTER K.; waste alum sludge treatment, 819
- NORTH, ERNEST C.; water utility cost trends—estimating depreciation, 132
- OEBEN, R. W.; HAINES, H. P.; & IVES, K. J.; comparison of normal and reverse-graded filtration, 429
- OFFNER, HARRY G. & WITUCKI, EDWARD F.; toxic inorganic materials and their emergency detection by the polarographic method, 947
- OLIPHANT, RICHARD J.; safety program brings results for the Denver Board of Water Commissioners, 1295
- O'MELIA, CHARLES R. (with STUMM); stoichiometry of coagulation, 514
- OWEN, LANGDON W.; ground water management and reclaimed water, 135
- OWEN, PAUL E.; trends in services and rates—Ventura, 1240
- OWNBEY, C. R. (with POSTON); the Great Lakes water resource, 15
- PALIN, ARTHUR T.; determination of nitrogen trichloride in water, 847
- PATTERSON, W. L. & BANKER, R. F.; effects of highly mineralized water on household plumbing and appliances, 1060
- PAULSON, WAYNE L. (with KROSS & FISHER); solids concentration and performance of solids contact softeners, 597
- PHILLIPS, J. H.; discovery and control of live organisms in the Great Yarmouth water supply, 228
- PITMAN, RAYMOND W. & WELLS, GLEN W.; activated silica as a filter conditioner, 1167
- POLLITT, VAN DYKE J.; new developments in automatic cathodic protection for water storage tanks, 1055
- POSSELT, HANS S.; REIDIES, ARNO H.; & WEBER, WALTER J., JR.; coagulation of colloidal hydrous manganese dioxide, 48; *errata*, 773, 1366
- POSTON, H. W. & OWNBEY, C. R.; the Great Lakes water resource, 15
- PRIOR, GEORGE A. (with BERTHOUEX); underground corrosion and salt infiltration, 345
- PROKOPOVICH, NIKOLA P. & HEBERT, D. J.; land subsidence along the Delta-Mendota Canal, California, 915
- PROKOPOVICH, NIKOLA P. & MAGLEBY, DAVID C.; land subsidence in Pleasant Valley area, Fresno County, Calif., 413; *erratum*, 1103
- PROUDFIT, DONALD P.; rubber-seated butterfly valves for distribution systems, 505
- PROUDFIT, DONALD P.; selection of disposal methods for water treatment plant wastes, 674
- RADEMACHER, JOHN M.; effects of multiple uses of watersheds on water quality, 1247
- RAMBOW, CARL A.; influence of stream quality standards on potable quality—evaluating water quality, 10
- RAMEY, J. C. & ANGVIK, N. R.; cross-connection control program, 213
- RAND, M. C. (with BJORKLUND); determination of free residual chlorine in water by para-aminodiethylaniline, 608
- RAO, V. CHALAPATI; SULLIVAN, ROBERT; READ, RALSTON B.; & CLARKE, NORMAN A.; a simple method for concentrating and detecting viruses in water, 1288
- RASINEN, E. M.; training programs in action—Detroit, 114
- READ, RALSTON B. (with RAO ET AL.); a simple method for concentrating and detecting viruses in water, 1288
- REIDIES, ARNO H. (with POSSELT & WEBER); coagulation of colloidal hydrous manganese dioxide, 48; *errata*, 773, 1366
- REINHART, FRANK W.; recent developments in thermoplastic piping, 1404
- REMUS, GERALD J.; rate problems in serving metropolitan areas—Detroit, 1109
- RENNE, ROLAND R.; status of water research in the United States, 749
- RICHARDSON, GORDON (with CULP & HANSEN); high-rate sedimentation in water treatment works, 699
- RIEMER, D. N. (with TOOTH); precise chemical control of algae in ponds, 367
- ROBECK, G. G. (with KREISSL & SOMMERVILLE); use of pilot filters to predict optimum chemical feeds, 299
- ROMANOFF, MELVIN; performance of ductile-iron pipe in soils, 645

- RUBIN, ALAN J.; removal of trace metals by foam separation processes, 832
- RUBIN, ALAN J. & LACKEY, STEPHAN C.; effect of coagulation on the microflotation of *Bacillus cereus*, 1156
- RUIZ, PEDRO F. MILLAN (with AZPURUA & EDUARDO); new water rates for Caracas, 774
- RUSCETT, RONALD W.; water systems financing and expansion—financing methods, 253
- RUSSELMANN, HEINZ B. (with METZLER); wastewater reclamation as a water resource, 95
- SAMDAL, J. E. (with GJESSING); humic substances in water and the effect of impoundment, 451
- SCHENK, J. E. & WEBER, W. J., JR.; chemical interactions of dissolved silica with iron (II) and (III), 199
- SETH, A. K.; GEORGE, M. G.; BEWTRA, J. K.; & SHARMA, V. P.; nematode removal by rapid sand filtration, 962
- SHARMA, V. P. (with SETH ET AL.); nematode removal by rapid sand filtration, 962
- SHIPMAN, HAROLD R.; comment—water supply management in Latin America, 745
- SILVEY, J. K. G.; effects of impoundments on water quality in the Southwest—effects of chemical and physical factors on water quality in reservoirs, 375
- SILVEY, J. K. G.; GLAZE, W. H.; HENDRICKS, ALBERT; HENLEY, DON; & MATLOCK, JIM; gas chromatographic studies on taste and odor in water, 440
- SINGLEY, J. E. (with J. H. SULLIVAN JR.); reactions of metal ions in dilute aqueous solution: hydrolysis of aluminum, 1280
- SMITH, C. V. JR. & MEDLAR, S. J.; filtration optimization utilizing polyphosphates, 921
- SMITH, J. J. JR. (with BLACK ET AL.); iodine for the disinfection of water, 69
- SMITH, JOHN W. & GRIGOROPOULOS, SOTORIOS G.; toxic effects of odorous trace organics, 969
- SMITH, JOHN W. (with GRIGOROPOULOS); trace organics in Missouri subsurface waters, 586
- SMITH, W. HARRY; soil evaluation in relation to cast-iron pipe, 221
- SOMMERVILLE, G. A. (with KREISSL & ROBECK); use of pilot filters to predict optimum chemical feeds, 299
- SPICER, CLIFFORD H.; water systems financing and expansion—engineering aspect, 255
- SPOUL, OTIS J. (with WENTWORTH & THORUP); poliovirus inactivation in water-softening precipitation processes, 939
- SQUIERS, KENNETH M.; supervisory control of a ground water supply, 425
- STUMM, WERNER & O'MELIA, CHARLES R.; stoichiometry of coagulation, 514
- SULLIVAN, J. H., JR. & SINGLEY, J. E.; reactions of metal ions in dilute aqueous solution: hydrolysis of aluminum, 1280
- SULLIVAN, ROBERT (with RAO ET AL.); a simple method for concentrating and detecting viruses in water, 1288
- SUMRALL, CLINTON L., III & MIDDLEBROOKS, E. JOE; removal of radioisotopes from water by slurrying with Yazoo and Zilpha clays, 485
- SWEET, H. G.; new water treatment plant for Sidney, Australia—background, 781
- TAYLOR, EDWARD F.; water rights litigation and legislation, 1967, 1001
- TAYLOR, F. B.; EAGEN, J. H.; & MADDOX, F. D.; public water supply quality and AWWA proposed goals, 764
- TEERINK, JOHN R.; conjunctive use of ground and surface waters, 1149
- TEERINK, JOHN R.; utilization of both ground and surface waters, 809
- TEWARI, D. N. (with AGNIHOTRI); TDS and specific gravity in ground waters, 733
- THOMAS, ROGER L. (with HARMESON & EVANS); coarse media filtration for artificial recharge, 1396
- THOMAS, W. C., JR. (with BLACK ET AL.); iodine for the disinfection of water, 69
- THORUP, ROBERT T. (with WENTWORTH & SPOUL); poliovirus inactivation in water-softening precipitation processes, 939
- TINKEY, A. M.; crossing the Meramec river, 755
- TOTH, STEPHEN J.; metallic elements in inland waterways, 455
- TOTH, STEPHEN J. & RIEMER, D. N.; precise chemical control of algae in ponds, 367
- TUEPKER, J. L. & BUESCHER, C. A., JR.; operation and maintenance of rapid sand and mixed-media filters in a lime softening plant, 1377

- VAN DYKE, ROBERT P.; water supply planning at San Antonio, 388
- VONDRICK, ART F.; training programs in action—Phoenix, Arizona, 117
- WALKER, J. D.; high energy flocculation, 1271
- WALKER, J. D.; high energy flocculation and air-and-water backwashing, 321
- WARD, PAUL C. (with MERRELL); virus control at the Santee, Calif., project, 145
- WARING, F. H.; tribute to Charles P. Hoover, 1077
- WATSON, K. S.; *discussion*—water requirements for manufacturing, 1140
- WEBER, WALTER J., JR. (with POSSELT & REIDIES); coagulation of colloidal hydrous manganese dioxide, 48; *errata*, 773, 1366
- WEBER, WALTER J., JR. (with SCHENK); chemical interactions of dissolved silica with iron (II) and (III), 199
- WELLS, GLEN W. (with PITMAN); activated silica as a filter conditioner, 1167
- WENTWORTH, DAVID F.; THORUP, ROBERT T.; & SPROUL, OTIS J.; poliovirus inactivation in water-softening precipitation processes, 939
- WEST, JOHN T. (with MILLER); pilot plant studies of floc blanket clarification, 154
- WHITE, GEORGE C.; chlorination and dechlorination: a scientific and practical approach, 540, 560
- WHITNEY, DENNIS B. (with ELDER & MIYOSHI); Los Angeles HVDC testing and ground current monitoring program, 1307
- WHITSELL, W. J.; new water source for Hopi Indian reservation, 816
- WICKSER, JAMES F. (with HAVLINA); cross-connection control at Los Angeles, 804
- WILDER, ERNEST T.; determination of the herbicide dimethylamine salt of 2,4-dichlorophenoxyacetic acid, 827
- WILLIAMS, D. B.; *discussion*—chlorination and dechlorination: a scientific and practical approach, 558
- WILLIAMS, JAMES W.; effect of water conditioning on wastewater quality, 1329
- WILSON, J. R. & CADWALLADER, E. A.; guidelines for the determination of the feasibility of desalting sea water, 103
- WILSON, P. S.; *comment*—properties of sulfur-base pipe jointing compounds, 372
- WITUCKI, EDWARD F. (with OFFNER); toxic inorganic materials and their emergency detection by the polarographic method, 947
- WOLMAN, ABEL; an eye to the future, 1205
- WOOD, DON J.; calculation of water hammer pressure due to valve closure, 1301
- YOUNG, E. F.; water treatment plant sludge disposal practices in the United Kingdom, 717